IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of Kent Malmgren et al. Application No.: 09/651,130 Filed: August 3, 2000 For: ABSORBENT FOAM MATERIAL, A METHOD OF PRODUCING IT AND AN ABSORBENT STRUCTURE CONTAINING SAID FOAM MATERIAL	**Mail Stop:** **APPEAL BRIEF - PATENTS** Group Art Unit: 1771 Examiner: Victor S. Chang Confirmation No.: 1064 Appeal No.: 2

SUMMARY OF CLAIMED SUBJECT MATTER

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Order Returning Undocketed Appeal to Examiner of April 9, 2007, applicants submit the following Summary of Claimed Subject Matter:

Summary of Claimed Subject Matter

The claimed invention relates generally to liquid absorbent open-cell polymeric foam material having properties which make it suitable for use as an absorbent structure in absorbent articles. Page 1, lines 3-7.

Specifically, the presently claimed invention (claim 1) relates to a liquid absorbent material. Page 1, line 4. The liquid absorbent material comprises an open-cell polymeric foam material comprising either polysaccharide or polypeptide. Page 1, line 4 and Page 8, line 32 to Page 9, line 1. The foam material comprises a distribution of pore sizes between 0 and 3 μm. Page 5, lines 12-29. The foam material has an absorption rate at wetting of at least 0.4 ml/s for a round sample having a 50 mm diameter for synthetic urine test liquid. Page 3, lines 7-9. The foam material has a liquid distribution capacity at an inclination of 30° of at least 15 g/g for synthetic urine test liquid. Page 3, line 9. The foam material has a liquid storage capacity of at least 9% measured through centrifuge retention capacity for synthetic urine test liquid. Page 3, line 10. The foam material has a gel liquid absorption of at least 4 g/g measured by pore volume distribution for synthetic urine test liquid. Page 5, lines 24-27.

Also, the presently claimed invention (claim 13) relates to a liquid absorbent material. Page 1, line 4. The liquid absorbent material comprises an open-cell polymeric foam material comprising either polysaccharide or polypeptide. Page 1, line 4 and Page 8, line 32 to Page 9, line 1. The foam material has a first distribution of pore sizes between 0 and 3 μm. Page 5, lines 12-29. The foam material has a second distribution of pore sizes between 3 and 100 μm. Page 5, lines 27-29. The foam material has an absorption rate at wetting of at least 0.4 ml/s for a round sample having a 50 mm diameter for synthetic urine test liquid. Page 3, lines 7-9. The foam material has a liquid distribution capacity at an inclination of 30° of at least 15 g/g for synthetic urine test liquid. Page 3, line 9. The foam material has a liquid storage capacity of at least 9% measured through centrifuge retention capacity for synthetic urine test liquid. Page 3, line 10. The foam material has a gel liquid absorption of at least 4 g/g measured by pore volume distribution for synthetic urine test liquid. Page 5, lines 24-27.

Further, the presently claimed invention (claim 15) relates to a liquid absorbent material. Page 1, line 4. The liquid absorbent material comprises an

open-cell polymeric foam material comprising either polysaccharide or polypeptide. Page 1, line 4 and Page 8, line 32 to Page 9, line 1. The foam material has a first distribution of pore sizes between 0 and 3 μm. Page 5, lines 12-29. The foam material has a second distribution of pore sizes between 3 and 500 μm. Page 5, lines 22-23. The foam material has an absorption rate at wetting of at least 0.4 ml/s for a round sample having a 50 mm diameter for synthetic urine test liquid. Page 3, lines 7-9. The foam material has a liquid distribution capacity at an inclination of 30° of at least 15 g/g for synthetic urine test liquid. Page 3, line 9. The foam material has a liquid storage capacity of at least 9% measured through centrifuge retention capacity for synthetic urine test liquid. Page 3, line 10. The foam material has a gel liquid absorption of at least 4 g/g measured by pore volume distribution for synthetic urine test liquid. Page 5, lines 24-27.

Moreover, the presently claimed invention (claim 20) relates to a liquid absorbent material. Page 1, line 4. The liquid absorbent material comprises an open-cell polymeric foam material comprising either polysaccharide or polypeptide. Page 1, line 4 and Page 8, line 32 to Page 9, line 1. The foam material has an absorption rate at wetting of at least 0.4 ml/s for a round sample having a 50 mm diameter for synthetic urine test liquid for synthetic urine test liquid. Page 3, lines 7-9. The foam material has a liquid distribution capacity at an inclination of 30° of at least 15 g/g for synthetic urine test liquid. Page 3, line 9. The foam material has a liquid storage capacity of at least 9% measured through centrifuge retention capacity for synthetic urine test liquid. Page 3, line 10. The foam material has a first distribution of pores with a diameter less than 3 μm. Page 5, lines 24-27. This first distribution of pores produces a gel liquid absorption of at least 4 g/g synthetic urine. Page 5, lines 24-27. The foam material has a second distribution of pores with a diameter between 3 and 100 μm. Page 5, lines 27-29. This second distribution of pores produces a capillary liquid absorption of at least 8 ml/g. Page 5, lines 27-29.

In a preferred embodiment, the foam is built of a continuous three-dimensional network or cellular structure of a solid, which surrounds a gaseous phase dispersed therein. Preferably, the solid phase is a polymeric material, which forms the cell walls in a continuous cellular phase. The cells may have different shape, size, and topography and be open or closed. Preferably, the cell structure is open, which means that the cells communicate with each other. The term foam, as

defined according to the present invention, also encompasses materials where fibers of different types are integrated in the cell structure. Page 4, lines 13-20.

A preferred open-cell polymeric foam material has multifunctional absorption properties: absorption acquisition capacity, distribution capacity and storage capacity. The material should thus be able to simultaneously fulfill the functions of a liquid acquisition layer, distribution layer and storage layer. Page 5, lines 1-5.

In order that an absorbent material has the desired multifunctional properties, it is desirable to have absorption capacity in two different forms, capillary liquid and gel liquid. Gel liquid refers to liquid held in pores smaller than 3 μm and capillary liquid refers to loosely bound liquid in pores larger than 3 μm and up to 500 μm.

Gel liquid is specifically defined in the specification, "Gel liquid refers to liquid held in pores smaller than 3 μm and capillary liquid refers to loosely bound liquid in pores larger than 3 μm and up to 500 μm." Specification, page 5, lines 19-20.

Gel liquid is the liquid that is held most firmly in the structure. It is preferable that the gel liquid absorption, determined as the total amount of liquid in pores below 3 μm, according to pore volume distribution (PVD) measurements, is at least 4 g/g and more preferably at least 5 g/g of synthetic urine. The capillary liquid absorption, determined as the total amount of liquid in pores between 3-100 μm, according to PVD measurements, is preferably at least 8 mL/g, more preferably at least 10 mL/g. Page 5, lines 20-29.

The foam should have defined values of liquid acquisition, distribution and storage capacity. Thus, in a preferred embodiment, it should have an absorption rate at wetting of at least 0.4 ml/s, more preferably 0.5 ml/s, for a round sample having a 50 mm diameter, a liquid distribution capacity at an inclination of 30° of at least 15 g/g, more preferably at least 16 g/g, and a liquid storage capacity of at least 9%, more preferably at least 11%, measured through centrifuge retention capacity, for synthetic urine test liquid. Page 5, line 31 – Page 6, line 7.

The foam material may be used as the entire or part of the absorbent structure in absorbent articles such as diapers, pant diapers, sanitary napkins, incontinence guards, wound dressings, bed protections, etc. Page 4, lines 10-12.

Further, the foam material may be formed into any desired three-dimensional shape, which is determined by the shape of the mould in which the foam is applied during freezing steps. Page 11, lines 10-12.

Respectfully submitted,

Buchanan Ingersoll & Rooney PC

Date April 27, 2007 By: T.D. Boone

Travis D. Boone
Registration No. 52,635

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620